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Eumeces laticeps: A Neglected Species of Skink.

EDWARD H. TAYLOR.

THE reestablishment of the form long known as *Eumeces laticeps* Schneider may come as a surprise to the herpetologists, who have attempted to separate the wide-headed form occurring throughout the southern part of the United States from the typical *fasciatus*, and have given up the task as hopeless.

The older, less critical herpetologists, Holbrook, Harlan, Green, and many others, recognized the large form, *laticeps* Schneider: (*erythrocephalus* Gilliams), chiefly on the basis of size, and color of the head; later ones have considered it conspecific with *fasciatus* largely on coloration and markings.

The confusing fact has been that the two species *fasciatus* and *laticeps* go through the same general type of development. They both have practically the same color pattern; the old females retaining more of the color pattern than the males in each case. The males acquire a widened head with a red or red-brown coloration; the old females have a less widened head and develop no, or only a slight brownish, coloration instead of a reddish coloration.

Another fact that has added to the confusion is that both forms agree in having one postmental and a postnasal. *Fasciatus* has the generic habit of varying in these basic characters, as well as in the relationship of the frontonasal and the frontal, and the resultant effect on the prefrontals; in *laticeps* these characters are especially stable in comparison.

An examination of other characters, however, seems to show that in addition to the enormous difference in size the following characters will serve to distinguish *laticeps* from *fasciatus* in any given locality. One, of course, must not overlook the marked tendency to variation.

1. Usually a higher number of scale rows about the body.
2. The presence of eight (usually) instead of seven (usually) upper labials, the first five anterior to the "subocular" labial. (The last labial is largest in both forms.)

3. The tendency of the lower secondary temporal to enter the ear or be very narrowly separated from the ear; and only a single postlabial to separate the last labial from the edge of the auricular opening with usually a single very small scale superimposed above posterior part of postlabial.
4. The union of the prefrontals and consequent separation of frontal and frontonasal.
5. Wider supraoculars.
6. Higher labials; especially the subocular, in proportion to its length.
7. Longer limbs.
8. Shorter axilla to groin measurement.
9. Wider head proportionally in males.
10. A larger seventh labial.
11. Lower secondary temporal of very different shape.

Certain other characters, which, while perhaps not as important as the preceding, seem to give additional warrant for their separation:

1. A larger number (3-4) enlarged tubercles on sole of foot preceding the larger heel tubercles.
2. The presence of an added row of scales along the fourth toe reaching to, or near to, the distal phalanx.
3. A tendency for five postsuboculars to be present.
4. An arboreal habitat.
5. Larger, thicker claws.

It is highly probable that individuals may be found that will vary in one, possibly more, respects from these listed characters, but no specimen will vary in all of them.

As regards size of specimens, the difference between *laticeps* and *fasciatus* is very probably evident upon hatching. The youngest specimens of each of the two species I have at hand are Okla. Mus. No. 1885 *laticeps*, and 947 and 72184 *fasciatus*. The former is very young, probably just hatched as shown by the condition of the umbilicus and the greatly broadened character of the interparietal. The following list of measurements show the difference between *laticeps* and obviously older forms of *fasciatus*.

	Fasciatus, No. 72184.	Fasciatus, No. 947.	Laticeps, No. 1885.
Head to vent.....	26	35	30
Axilla to groin.....	13.5	17	14
Width of head.....	5	5.1	7.1
Length of head	6	7.5	8
Width of body.....	4	5	8
Hind leg	12	14	14
Postanal tail width.....	1.6	3.1	3.1
Hind foot	6.0	6.5	8.0

One of the most conspicuous differences is in the claws, which are thicker, longer, and curved strongly downward, suggesting the

possibility that the young are better climbers and are probably arboreal in habit from the beginning, instead of later taking to the arboreal habitat as has been proposed by many authors.

The variation of scalation that obtains in the two species in a given locality is shown in the following series from eastern Oklahoma. In *laticeps* the average number of scale rows is 32. One specimen shows 34, while two show 31. In the same lot all but one have 8 upper labials, 5 anterior to the subocular; the single specimen, showing only 7 upper labials with 4 preceding the suboculars, agrees in all other respects and at the same time is the one having 34 scale rows. It is from the same locality (Lattimer county, Oklahoma) as are several others of the series.

A series of ten *fasciatus* from Lattimer county, Oklahoma, show the following variation: Scale rows 26-30, of which 7 are 30, one 26, one 27 and one 28. Eight of these have 7 upper labials, 4 preceding the subocular, while 2 have 8 upper labials with 5 preceding the subocular.

In the number of postsuboculars (separating the labials and temporals from eye) there are usually 5 in *laticeps*; thus in 22 times (counting both sides of the 11 specimens) 5 occurs 10 times, 4 occurs 6 times, and 6 occurs once. In the *fasciatus* series of ten, 4 occurs 19 times, 5 occurs once.

In the same *laticeps* series the number of nuchals varies about equally; in 22 times (counting each side of the series of 11) 1 nuchal occurs 13 times and 2 occurs 9 times; 3 specimens show 2 pair, 5 showing 1 pair. In the *fasciatus* series of 10, 1 nuchal occurs 9 times, and 2 occurs 11 times; 4 specimens show 2 on each side; 3 1 on each side.

As regards the postmental, in the *laticeps* series 2 was invariably the number, and the postmental was invariably present, while in *fasciatus* 2 specimens have the postmental completely fused, with no evidence of its double character. The postnasal is invariably present.

In a series of 8 *laticeps* from Imboden, Arkansas, received by exchange from Byron Marshall, the scale rows varied from 30-32, 30 occurring 5 times, 32 occurring 2 times, 31 once. The upper labials were 8, save that two specimens showed 7 at one time; 2 postmentals invariably; 1 postnasal, save in two specimens that had the anterior loreal segmented and the postnasal fused to the lower moiety.

The postsuboculars were less constantly 5 in number; in 16 times

(counting both sides of the 8 specimens) 5 occurs 7 times, and 4 occurs 9 times.

One other character is that the entire series of *laticeps* average 2 or 3 more lamellæ under the fourth toe, the usual number being 17-18, 18 occurring the greater number of times; in *fasciatus* the numbers 15-16 are usual, 15 occurring the greater number of times.

A single specimen of *laticeps* from Gentilly, La., in the Ottawa University, Ottawa, Kan., shows the peculiarity of having a portion of the subocular segmented, leaving the pre- and postsubocular series continuous; the intercalated scale, the largest of the series, is present on each side and appears to be a normal condition. Otherwise it does not differ from typical *laticeps*.

A question might arise as to whether the two forms interbreed. In the material examined I find no specimens that could not be separated into their proper species on the basis of the character combinations suggested above. It would appear, after an examination of the internal sex organs of a number of the specimens, that *laticeps* does not begin to breed until a size is reached that is as great or greater than the adult *fasciatus*, and that size alone might serve as the factor to prevent interbreeding.

The paucity of young specimens of *laticeps* in collections is a matter of no little interest, but is strongly suggestive of the fact that eggs are laid in trees and that the young are arboreal from the beginning as is suggested also by the claws (*vide supra*). It is highly probable that it is this lack of young specimens of this species in collections and the abundant presence of *fasciatus* in collections from the same localities that has been partially responsible for the confusion of the two forms for the past half century.

In the eastern part of the range of the species there is a tendency for it to have seven lines, the extra pair being sublateral, beginning low on side of neck and continuing to the groin. This line persists in females and in all save old males. In the western part of the range this extra line is wanting. A number of other differences are in evidence. The transitional coloration varies and there are certain scale variations. It may be possible after larger series are examined to recognize an eastern and western form.

It is probable that Cope's *E. polygrammus*,¹ Colonel's Island, Liberty county, Georgia (U. S. N. M. No. 4156), is a specimen of this form.

1. Cope, E. D.: Ann. Rept. U. S. Nat. Mus. 1898 (1900), p. 637, 638.

Schneider² does not give a type locality, but it is highly probable that the type specimen came from the east coast region of the United States and that *polygrammus* is a direct synonym of this form.

The plates give photographs of specimens from the eastern part of the range, as well as from the west. Unfortunately the photographs do not show the same relative reduction, so actual size is recorded for each specimen.

2. Schneider: Hist. Amph., II 1801, p. 189.

EXPLANATION OF PLATES.

PLATE XIX.

FIG. 1. *Eumeces laticeps* Schneider. Michigan University Museum No. 67792. Pigeon River, Butte county, Alabama. (Seven-lined form. Adult female, 93 mm. snout to vent.)

FIG. 2. *Eumeces laticeps*. M. U. M. No. 67793. Houston county, Georgia. (Seven-lined form. Adult female, 87 mm.)

PLATE XIX.



PLATE XX.

FIG. 1. *Eumeces laticeps* young. M. U. M. No. 57717. Micanopy Road, Florida. (Seven-lined form, 54 mm.)

FIG. 2. *Eumeces laticeps*. M. U. M. No. 56607. Alachua county, Florida. Adult female, containing 14 undeveloped eggs. (Seven-lined form, 95 mm.)

FIG. 3. *Eumeces laticeps*. M. U. M. No. 56686. Hanover, Ind. (Five-lined form, 84 mm.)

FIG. 4. *Eumeces laticeps*. Oklahoma University Museum No. 7265. Delaware county, Oklahoma. (Five-lined form, 112 mm.)

PLATE XX.

